

**REMARKS**

Claims 1 and 3-110 are pending in the application. Claims 1-6, 13-64, and 69-71 have been withdrawn from consideration. Claims 7-12, 65-68, and 72-110 are currently under consideration. No amendments have been made and, as such, no new matter has been introduced by this submission.

**I. REJECTIONS UNDER 35 U.S.C. § 102**

The Office Action continues to reject Claims 7-10, 65-68, 72-83, 85, 87-92, 97-105, and 107-110 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,090,251 to Sundberg et al. (hereinafter “Sundberg”). To that end, it is well established that a novelty defeating reference under 35 U.S.C. § 102 must disclose each and every feature of a claimed invention. As set forth below, Applicants respectfully submit that Sundberg fails to disclose each and every feature of Applicants’ claims and therefore the instant rejections should be withdrawn.

Each of independent Claims 7, 65, 81 and 98 is generally directed to, and without limitation, an instrument for the observation, treatment or analysis of a liquid sample. In particular, Claim 7 is directed to an instrument for the observation, treatment or analysis of a liquid based on a drop size sample and recites, in part, the feature of a “first passage leading to a portion thereof proceeding tangentially past openings of the filter and to an expanded liquid flow path for drawing liquid therealong by capillary action.” Claim 65 is also directed to an instrument for the observation, treatment or analysis of a selected liquid and similarly recites, in part, the feature of a “first passage leading tangentially past the filter to an expanded flow path for drawing liquid therealong by capillary action.” Still further, Claim 81 is directed to an instrument for the observation, treatment or analysis of a sample of a liquid and recites, in part, the feature of an expanded liquid flow path “sized to continue to draw liquid of the sample tangentially past the filter and there along concurrently by capillary action.” Additionally, Claim 81 further recites that the expanded liquid flow path comprises a “plurality of at least five liquid flow paths.” Lastly, Claim 98 is directed to an instrument comprising, in part, a “means in liquid flow communication for maintaining a tangential flow of the specimen liquid past the filter and through the liquid receiving means by capillary action. Accordingly, each of these claims has a

feature directed generally to a structure providing tangential passage or flow past a filter element. Additionally, the tangential passage or flow is driven by capillary action. In contrast, Sundberg does not disclose the claimed tangential flow past a filter element nor does Sundberg teach that the tangential flow is driven by capillary action.

The Office Action contends with reference to FIG. 7 that Sundberg discloses multiple flow paths 78 that effectively provide a tangential flow past at least a first weir type filter element 90. As previously set forth in Applicants' Amendment dated January 29, 2007, this interpretation of Sundberg is incorrect. With specific reference to FIG. 7, Sundberg actually teaches a flow path which passes through a filter channel 70, into an electroosmotic channel 76, and past a limiting region 90. The limiting region 90 is positioned in one or more electrophoretic separation channels 78. Sundberg further teaches that the limit region 90 prevents a first fluid within the one or more electrophoretic separation channels 78 from passing into and filling the electroosmotic channel 76. Therefore, the limit region 90 acts as a liquid mixing barrier and does not act as a weir type filter. No where in the reference does Sundberg teach or suggest that this limit region 90 can function as a filter. In fact, the only filter disclosed by Sundberg is structure 70 which is positioned at the bottom of an inlet reservoir and which is located upstream of the limit regions 90. To that end, structure 70 functions to block entry of particulates from entering the flow channel 18 that, if allowed, might impede flow though channel 18. Further, Sundberg similarly fails to disclose a tangential flow or passage past this filter structure 70 as well.

Assuming however for the sake of argument that Sundberg's limit regions 90 could be considered filters as contended in the rejection, the resulting structure still would fail to provide an expanded flow path that drives tangential flow past a filter element by capillary action. As summarized above, Applicants' tangential flow past a filter element is driven by capillary action. Further, this capillary action is driven by the expanded flow path downstream from the filter element. In contrast, Sundberg's features 78, hypothesized in the instant rejection as being expanded flow paths, would require passage of the liquid flow through at least one of the limit regions 90. This limit region 90 is a structure of reduced dimensions that would actually impede the liquid flow and would therefore interrupt or even prevent capillary action from driving any tangential flow. Accordingly, even if Sundberg's element 90 could be considered a weir type

filter element 90, flow paths 78 would not be able to drive a liquid flow tangentially past any of the elements 90 by capillary action.

Therefore, for at least the foregoing reasons, Sundberg fails to teach every feature of claims 7-10, 65-68, 72-83, 85, 87-92, 97-105, and 107-110 and, such, the instant rejections should be withdrawn.

## **II. REJECTIONS UNDER 35 U.S.C. § 103**

The Office Action has further rejected a number of Claims as allegedly being obvious on a number of grounds. In particular, Claims 11, 12, 84, 86, 93-96, and 106 have been rejected under 35 U.S.C. § 103(a) as allegedly being obvious over the teachings of Sundberg further in view of Quake. Claims 81-97 have also been rejected under 35 U.S.C. § 103(a) as allegedly being obvious over "Brody" in view of Quake. To that end, in order to establish a *prima facie* case of obviousness, the art of record must teach, or at least suggest, the claimed invention as a whole. Moreover, there must be adequate motivation and a reasonable expectation of success to undertake the proposed modifications. As set forth below, Applicants respectfully submit that this standard has not been met by the instant rejections and, as such, the rejections under 35 U.S.C. § 103(a) should be withdrawn.

### **A. Rejection of Claims 11, 12, 84, 86, 93-96, and 106**

Claims 11, 12, 84, 86, 93-96, and 106 have each been rejected under 35 U.S.C. § 103(a) as allegedly being obvious over the teachings of Sundberg further in view of Quake. To that end, it is axiomatic that "dependent claims are non-obvious under section 103 if the independent claims from which they depend are non-obvious." *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). As set forth in detail above, Claims 7, 81, and 98, the independent claims from which Claims 11, 12, 84, 86, 93-96, and 106, are novel, non-obvious, and in condition for allowance over the cited art. Therefore, for at least this reason alone, it necessarily follows that dependent claims 11, 12, 84, 86, 93-96, and 106 are also novel, non-obvious, and in condition for allowance. However, notwithstanding the axiomatic principles of *In re Fine*, the proposed combination of Sundberg and Quake still fails to teach or suggest the claimed invention as a whole.

As set forth above, each of Claims 7, 81, and 98 are directed generally to an instrument for the observation, treatment or analysis of a liquid sample that provides a tangential passage or flow past a filter element. Further, the tangential flow past a filter element is driven by capillary action. Neither Sundberg nor Quake discloses the claimed tangential flow past a filter element, much less driving such tangential flow by capillary action. Furthermore, the proposed combination of Sundberg and Quake similarly fails to provide any suggestion or motivation that would lead one of ordinary skill in the art to provide a tangential passage or flow past a filter element wherein such tangential flow is driven by capillary action. As such, the proposed combination of Sundberg in view of Quake or, alternatively Quake in view of Sundberg, fails to teach or suggest the invention as a whole and, as such, Applicants' respectfully request that the obviousness rejections of Claims 11, 12, 84, 86, 93-96, and 106 be withdrawn.

**B. Rejection of Claims 81-97**

Claims 81-97 have been rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Brody in view of Quake. To that end, Claim 81 is directed to an instrument for the observation, treatment or analysis of a sample of a liquid comprising, in part, an expanded liquid flow path including a plurality of at least five liquid flow paths in communication with the first passage downstream location and sized to continue to draw liquid of the sample tangentially past the filter and therealong concurrently by capillary action to thereby prolong the period of continuous flow of liquid in the instrument and increase the volume of flow of liquid in the instrument to more than a nanoliter solely by capillary action.

As previously acknowledged by the Examiner Brody fails to teach or suggest a device that uses an expanded flow path or plurality of liquid flow channels to achieve a continuous flow mode. Therefore, it follows that the device of Brody requires and applied head pressure to achieve a continuous flow. Similarly, Quake's teaching of a plurality of capillary flow paths are only to achieve initial filling of the fluid channels and actually requires active pumping and valving means to control the flow of the fluid sample for down stream analysis. Thus, there is nothing in Brody or Quake, either alone or in combination, that would suggest the desirability of using multiple flow paths in order to prolong the period of continuous flow of liquid in an instrument by capillary action. Therefore, even assuming arguendo that one of ordinary skill in

the art would seek to combine the disclosures of Brody and Quake, the resulting combination would still fail to render the claimed invention obvious, and thus Applicants' respectfully request that the rejection to Claims 81-97 be withdrawn.

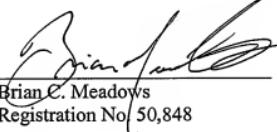
**CONCLUSION**

In view of the foregoing Remarks, it is respectfully asserted that the rejections set forth in the Office Action of February 16, 2007 have been overcome and that the application is in condition for allowance. Therefore, Applicants respectfully seek notification of same.

No additional fee is believed to be due in connection with this submission. However, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.



Brian C. Meadows  
Brian C. Meadows  
Registration No. 50,848

NEEDLE & ROSENBERG, P.C.  
Customer Number 23859  
(678) 420-9300 Phone  
(678) 420-9301 Fax